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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,252	09/28/2002	Wayne Westerman	FWPA5	2130
27417	7590	09/22/2004	EXAMINER	
FINGER WORKS, INC. P.O. BOX 430 TOWNSEND, DE 19734			SHENG, TOM V	
			ART UNIT	PAPER NUMBER
			2673	
DATE MAILED: 09/22/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/065,252	WESTERMAN ET AL.
	Examiner	Art Unit
	Tom V Sheng	2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1,3-6 and 8-14 is/are rejected.
- 7) Claim(s) 2 and 7 is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 September 2002 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ .	6) <input type="checkbox"/> Other: ____ .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claim 1, lines 7-8, the phrase "neutral, relaxed hand" and line 8, the phrase "a hand whose fingers have been spread deliberately" are not clear as to the scope of the claim. The phrase "neutral, relaxed hand" is not defined in the claim. In order to clearly differentiate between the two hand gestures, further descriptions on above neutral hand and spread hand are needed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ure (US 6,107,997) in view of Cheung (US 5,736,976).

As for claim 1, Ure teaches waiting for multiple fingers to touch a surface apparatus (waiting for a single or multiple touch at a virtual keyboard/mouse 909; see fig. 9 and 14-17; column 11, line 54 through column 12, line 8);

classifying the combination of fingers that initially touch the surface as a particular chord (with a multiple touch, a keyboard operation is started; specifically a particular two-key chord is determined from the touch; see figures 6 and 7; column 8, line 10 through column 9, line 49);

measuring the geometric arrangement of the fingers (the geometric arrangement is inherent in the sensing and determining a particular chord);

generating function or command signal to a host computer (from the keyboard operation, an output signal corresponding to a chord detected is outputted); and

restarting the above steps after liftoff of all the fingers (liftoff is an inherent indication of completion of a particular chord input, and which is why the flow would return to the beginning after issue of output signals).

Further, Ure teaches in two-fingers chord, that letters would be encoded with two adjacent keys, which resembles a neutral, relaxed hand; and that other symbols or actions would be encoded with two non-adjacent keys, which resembles a spread hand (note: there is a few errors in figure 7 that deviates from specification). Thus, the chords/geometric arrangements above apparently could be classified into two sets corresponding to the relaxed hand and the spread hand, respectively.

Ure does not teach testing whether the geometric arrangement is of a neutral, relaxed hand, or a spread hand, and selecting a corresponding set of gesture functions or commands.

Cheung teaches sensing hand motion and subsequently determining a set of action keys (see fig. 5a and 5b; column 4, lines 35-59). As broadly interpreted, the sensing is applicable to determining between a relaxed hand and a spread hand and selecting a corresponding set of gesture functions.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to have used sensing of hand motion of Cheung into the device of Ure, because this will provide an applicable solution with hand motion detection and a motion visual monitoring aid for data entry operation to allow a more flexible operation (see column 2, lines 13-17).

5. Claims 3-6 and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ure and Cheung as applied to claim 1 above, and further in view of Bisset et al. (US 5,825,352).

As for claims 3 and 4, Ure further teaches mouse operation with the 1 finger touch. However, neither Ure nor Cheung teaches mouse operations such as point, drag, scroll, or click as claimed based on two or more fingers chord.

Bisset teaches use of combination of fingers on a touch pad to provide mouse functions such as point, drag, scroll, and click (see column 2, line 56 through column 3,

line 15; column 13, lines 1-58 and figures 7A-F for examples). These multi-finger operations are applicable similarly in a touch pad of Ure.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate Bisset's multi-finger mouse emulation into modified Ure's device, because of the benefit of providing conventional mouse button functions in addition to Ure's text entry function (see column 4, lines 30-39).

As for claims 5 and 6, text search and replace functions, text styling functions, and text alignment functions are well known in text editing software such as Microsoft Word and the mere addition to text input and mouse button functions as taught by Ure modified by Cheung and Bisset simply serves to further enhance the functions implementable by a single hand gesture.

As for claims 8-14, Bisset teaches use of multi-fingers in translations that are applicable in both mouse operations such as pointing and dragging as discussed above and text operations such as text selection or moving a text cursor, which would be apparently part of text operations as analyzed above for claims 5 and 6.

Allowable Subject Matter

6. Claims 2 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter: none of the prior arts of record teaches computing total mismatch between

touching fingers and neutral working template and total mismatch between touching fingers and spread working template and classifying the finger arrangement according to the comparison between the two mismatches, as cited in claim 2. Further, by defining templates of contact coordinates for the typical neutral and maximally spread cases, this helps to further differentiate between neutral and spread finger arrangements. None of the prior arts of record teaches sliding two, three, and four fingers in an adjacent or spreading manner to correspond to various text manipulating and editing commands, as cited, of claim 7.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V Sheng whose telephone number is (703) 305-6708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2673

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
September 15, 2004


Amare Mengistu
Primary Examiner